

## RESEARCH STRATEGY

RESEARCH AND DEVELOPMENT – WHEN TIME IS VITAL  
OVERALL RESEARCH STRATEGY FOR HE MS-DENMARK

2015 – 2020



**Research strategy:**

Research and development – when time is vital  
2015 – 2020

Prepared by the Research Committee for HEMS-Denmark Approved by the Steering  
Committee on 16 September 2015

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## PREFACE

This research strategy constitutes an overall research framework for the regions' three emergency medical helicopters organised under HEMS-Denmark (in the following called HEMS DK).

The research strategy describes strategic clinical research activities for the helicopters with focus on time-critical patients for whom the emergency medical helicopter's emergency response is vital.

The research strategy must support and stimulate network formation between new and existing research environments, both nationally and internationally. The aim is to strengthen interaction, collaboration and dialogue between researchers with different healthcare backgrounds, so that competences and knowledge are further developed and utilised optimally.

The research strategy must create a framework for ensuring development and evidence-based operation of HEMS DK by continuously developing, challenging and rethinking the established views on clinical practice.

It is essential that the research strategy is operationalised with specific protocols and research projects. The research strategy should therefore be understood as an organisational framework under which specific clinical research projects are planned, initiated and implemented.

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## BACKGROUND

Based on the positive experiences with research projects conducted under the auspices of the two previous trial schemes with emergency medical helicopters as well as the wish to profile HEMS DK in research contexts, a cross-regional Research Committee is set up. Using this research strategy as a springboard, the Research Committee will define the principles for the future research involvement for HEMS DK.

The research is to contribute to creating new healthcare knowledge and improving the quality of the treatment provided by HEMS DK by optimally supporting knowledge-based work in specific courses of treatment etc.

In the long term, the research environment attached to HEMS DK is to become an internationally recognised environment for knowledge in the prehospital field, including, in particular, HEMS. By developing a knowledge pool on a foundation of research and development, HEMS DK can contribute to ensuring that Denmark will be regarded as an attractive partner which can contribute actively to continuous knowledge development for HEMS services, operations, training and education as well as development work, both nationally and internationally.

Innovation, research and development in HEMS DK must develop and qualify this field in close collaboration with relevant partners: companies, institutions, national and international prehospital organisations and research institutions.

It is vital that Danish Air Ambulance has a clear, independent profile for this field, as part of the overall prehospital services.

## VISION AND MISSION

The research organisation for HEMS DK must be a nationally leading and internationally recognised environment for knowledge development and evidence-based operations.

Our vision initially contains an objective to consolidate a national research organisation around the regions' emergency medical helicopters. The vision subsequently contains an objective to ensure a research development and direction in which Denmark is able to implement research projects of a high international standard and, in the long term, contribute to Scandinavian and European multicentre studies.

## RESEARCH STRATEGY

It is vital that HEMS DK's research organisation has a clear and independent profile in this field. The research strategy for HEMS DK comprises the timeline from when an emergency alarm call (112) is received and until the patient is handed over to the emergency department or a specialised department.

The focus of the research strategy is to ensure evidence-based services for HEMS DK and to pinpoint the possibilities for developing and improving the overall prehospital course.

The strategy is defined by the below research areas:

- Clinical epidemiological surveys concerning, for example, health situation and geographical or logistical conditions.
- Clinical studies which map the efficacy of the prehospital services – on patient course and outcome
- Development and testing of medicines and/or medico-technical equipment as well as point-of-care (patient diagnostics and treatment methods on site)
- Education and training in prehospital treatment
- Patient safety and quality assurance
- Social science issues

The research strategy includes recruitment of research year students, PhD students and associated postdoc/senior researchers.

## ORGANISATION

To a great extent, the research involvement work will build on the already established research environments in the prehospital field – both to exploit the inherent synergies and for practical reasons. Intensive research work will therefore naturally require close collaboration with the established environments.

### **Research Committee:**

A cross-regional Research Committee has been set up consisting of the following persons:

- Chairman:  
Medical Director of HEMS DK, Troels Martin Hansen
  
- Regional representatives:  
Erika Frischknecht Christensen, North Denmark  
Region, Peter Berlac, Capital Region of Denmark  
Ole Mazur Hendriksen, Region Zealand,  
Søren Mikkelsen, Region of Southern  
Denmark  
Ingunn Skogstad Riddervold, Central Denmark Region

- Representatives among the attached HEMS physicians: Leif Rognås  
Lars Knudsen  
Jacob Steinmetz  
Charlotte Barfoed

The Research Committee has been responsible for the preparation of this research strategy. The committee must subsequently handle the implementation of the strategy and will meet twice a year in this connection. See also the Research Committee's rules of procedure.

The secretariat for the Research Committee is provided by the host region.

## COLLABORATION/NETWORKS

The starting point must be to ensure closer research collaboration between the prehospital organisations and the somatic hospitals, including, in particular, the joint emergency departments and the specific specialised departments to which HEMS DK delivers patients directly.

The aim is to establish collaboration with national and international research groups in relevant research areas. The collaboration with other institutions is expected to be developed in line with the implementation of specific projects. The research strategy is expected to promote network formation among clinical researchers as well as network formation of an international nature.

It is an obvious opportunity to establish solid collaboration on a Scandinavian basis, as the prehospital services are largely comparable. In addition, there will be a wish to establish close collaboration with other European helicopter emergency medical services.

## RESEARCH POLICY

'Research policy' means management of emergency medical helicopter research activities in accordance with a holistic strategy and long-term objectives. It is of key importance in this respect that the research is institutionalised in scientific academies, at universities and in the regional institutions.

The purpose is to collect data to:

1. monitor emergency medical helicopter operations to ensure close quality follow-up
2. monitor use of new medico-technical equipment and new medical treatment offers
3. create a basis for scientific projects
4. create a basis for further development of emergency medical helicopter services.

An application for data collection for the above purposes is submitted in accordance with the guidelines provided in the application form.

The provisions of the Danish Data Protection Agency apply to the disclosure of data. In connection with disclosure of data, there must be a plan for dissemination of results in the form of scientific articles in national or international journals or presentation in national or international forums. All projects which use data from the database are obliged to submit a Danish summary to the website describing the project results in layman's terms and to participate in an oral presentation of the results at conferences etc. All projects and publications in which data from HEMS DK are used must include the following verbatim text in the preface or methodology section: "Data have been collected by HEMS DK". Authorship must be defined early in the process and must meet the Vancouver criteria at any and all times.

The project applicant must submit a status report to the Research Committee (½-1 page) with information about the project process as well as publications and presentations once a year until the project has been completed.

The status reports for the individual research projects are gathered in an Annual Report to the Steering Committee, which must also be kept informed about future research plans and ongoing research projects.

## **KNOWLEDGE TURNOVER AND DISSEMINATION**

One of the success criteria for good research projects is well-functioning interaction between the healthcare professions and medical specialisations involved. It is therefore essential that the research developed under this strategy is targeted at an interdisciplinary and cross-sectoral reality.

All projects arising from the research strategy must, if possible, be published in peer-reviewed journals. It must also be specified in articles and other project material that the research arises from HEMS DK, together with the departments involved.

In this connection, the individual researchers are obliged to make their research results available to the public, present them in accordance with general scientific and academic principles and avoid distorted or incomplete presentations.

## FINANCES

An annual financial framework of DKK 1,200,000 has been allocated.

The funds are distributed between the projects based on the research policy and in accordance with the Research Committee's rules of procedure. The Steering Committee is involved in connection with major strategic initiatives and research projects which require funds from the helicopter organisation.

Attempts will also be made to raise funding from both public and private sources.

## ETHICS

All research projects are implemented in accordance with good clinical practice and must be covered by the Helsinki II Declaration. Where relevant, the projects must also be approved by the Regional Committee on Health Research Ethics, the Danish Data Protection Agency, the Danish Health Authority, Clinical Trials and GCP unit.

All projects are planned and implemented with due consideration for operational activities and patients.

## PUTTING THE FINDINGS IN PERSPECTIVE

The research strategy is expected to generate new experience and evidence. This may have a decisive impact on the future handling of emergency medical helicopter patients and will have a knock-on effect on other patient groups and courses of treatment.

The research is expected to result in new and better diagnostic methods and treatments, better and more coherent and time-optimal patient care, fewer complications as well as greater patient satisfaction. Furthermore, the research strategy is expected to be of socio-economic importance in highlighting any optimised resource utilisation.

Implementation of new methods etc. is not in itself part of the research strategy, but the probability of the acquired knowledge being converted into practice is increased through commitment to knowledge sharing and publication of the results of the strategy.

The strategy aims to promote coordination and development of healthcare research activities, while also ensuring an evidence-based practice.